Ordering number: EN1848B

Monolithic Linear IC

No.1848B

LA7710

SECAM, PAL (Quasi-Parallel) Audio IF Circuit

Overview

The LA7710 is a SECAM (audio IF, electronic volume control, AF preamp)/PAL (quasi-parallel audio IF circuit) dual system IC that is packaged in a 16-pin DIP package. The LA7710 is applicable to the SECAM or PAL system by changing over the AGC system (pin 3 is brought to open state or grounded).

Functions

- IF amp
- Detector
- IF AGC (peak AGC, average AGC)
- Electronic volume control
- AF preamp
- PAL/SECAM switch

Features

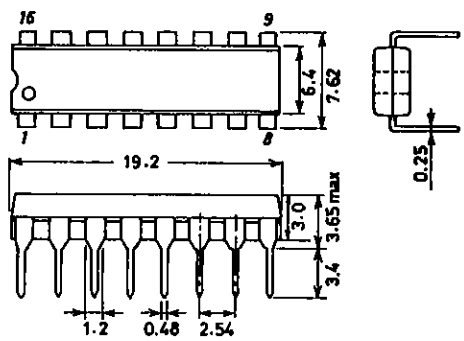
- Used as SECAM audio IF circuit by bringing pin 3 to open state. Also used as PAL quasi-parallel audio IF circuit by grounding pin 3.
- Electronic volume control : 0dB output available

Package Dimensions

(unit : mm)

3006B-DIP16

[LA7710]



SANYO : DIP16

Specifications

Maximum Ratings at Ta = 25°C				Unit
Maximum Supply Voltage	V_{CC} max		15	V
Maximum Flow-out Current	I_{11} max		−5	mA
	I_5 max		−3	mA
	I_4 max		−3	mA
Allowable Power Dissipation	Pd max	Ta ≦ 60°C	900	mW
Operating Temperature	Topr		−20 to +70	°C
Storage Temperature	Tstg		−55 to +125	°C

Operating Conditions at Ta = 25°C			Unit
Recommended Supply Voltage	V_{CC}	12	V
Operating Voltage Range	V_{CC} op	9 to 13.5	V

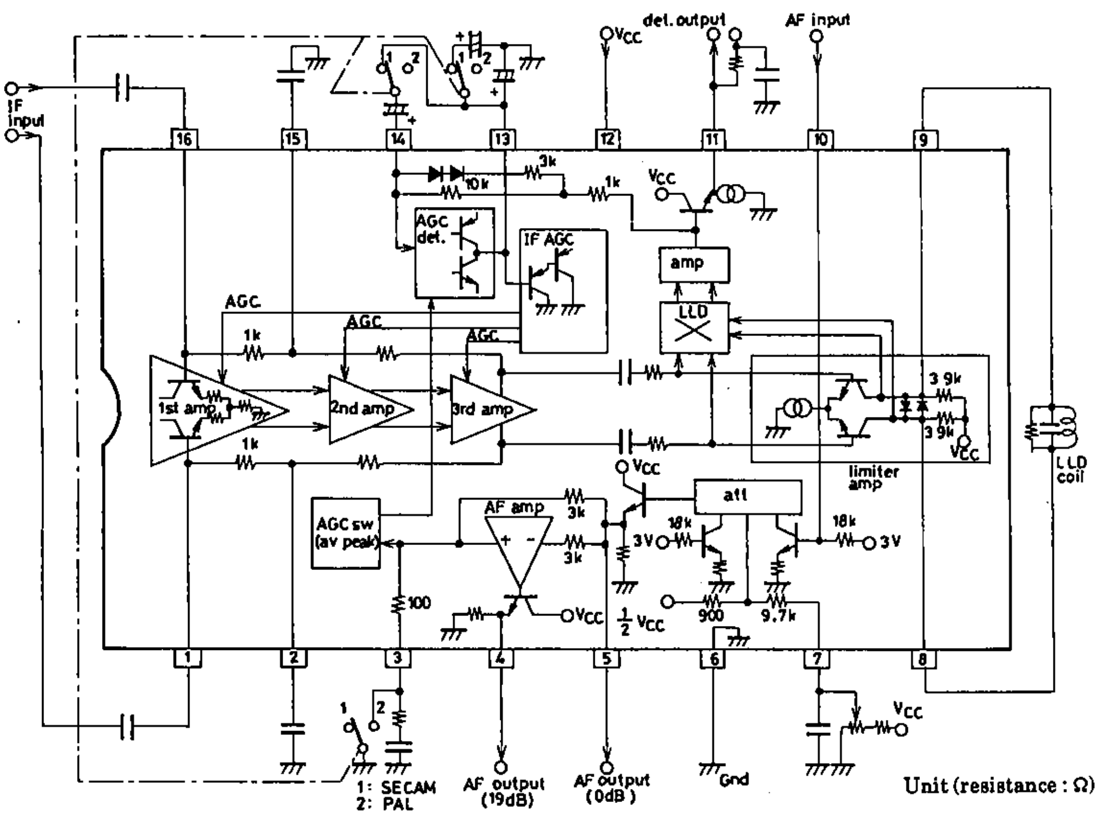
SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Operating Characteristics at Ta=25°C, V_{CC}=12V, fs=39.2MHz, fp=32.7MHz

			min	typ	max	Unit
Circuit Current	I_{12}		39	49	63	mA
Usable Sensitivity	Vi (S/N)	400Hz-30% mod AM		39	46	dB
Average Detection Output	Vos	〃	190	280	360	mV
SECAM S/N	S/Ns	〃	52	59		dB
Detection Output Distortion	THDs	〃		0.5	1.0	%
Maximum Allowable Input	Vi max	THD=2%	92	98		dB/μV
AGC Range	GR		63	69		dB
Peak Output Amplitude	Vop	15kHz-78% mod AM	1.4	1.7	2.1	V
SIF Output Amplitude	V_{SIF}	P/S : 20dB	50	90	130	mV
Frequency Characteristic	f_C	−3dB	5	7		MHz
Electronic Volume Control Voltage Gain	VGdc		−1	0	+1	dB
Electronic Volume Control Distortion	THDatt			0.1	0.4	%
Electronic Volume Control Max. Attenuation	ATT		70	80		dB
AF Amp Voltage Gain	VGaf		17	19	21	dB
AF Amp Distortion	THDaf			0.3	1.0	%

(Note) Current direction : + : Flowing into IC
− : Flowing out of IC

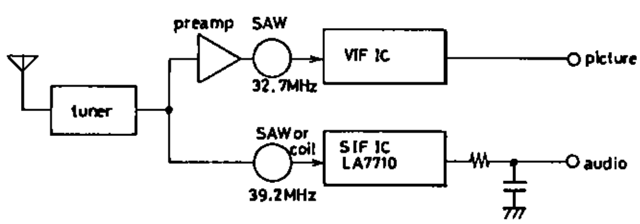
Equivalent Circuit Block Diagram

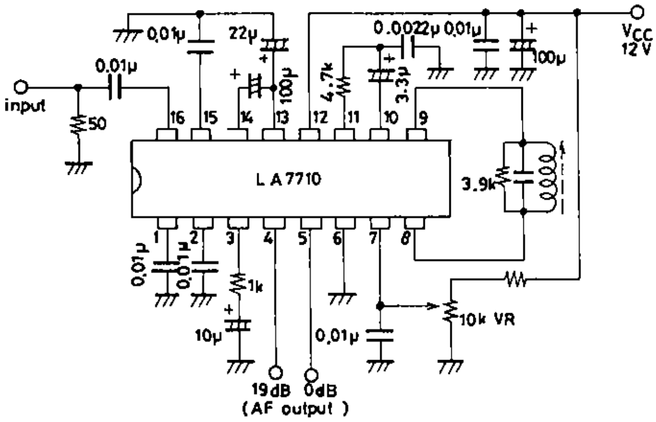


Unit (resistance : Ω)

Sample Application Circuits-Each system diagram and IC peripheral circuit

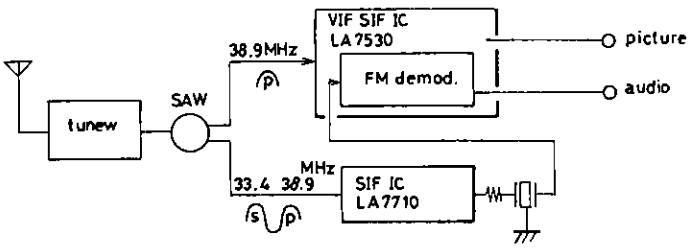
(1) SECAM

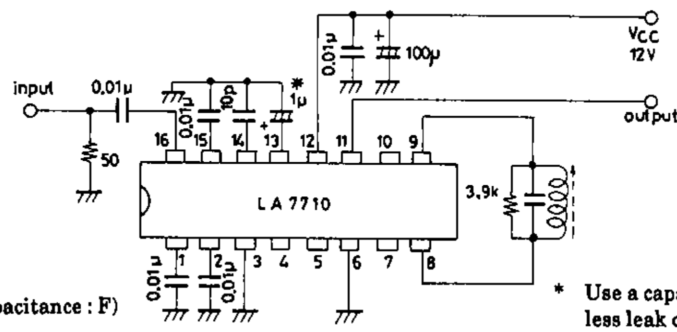




Unit (resistance : Ω, capacitance : F)

(2) PAL

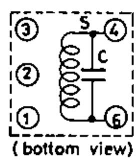




Unit (resistance : Ω, capacitance : F)

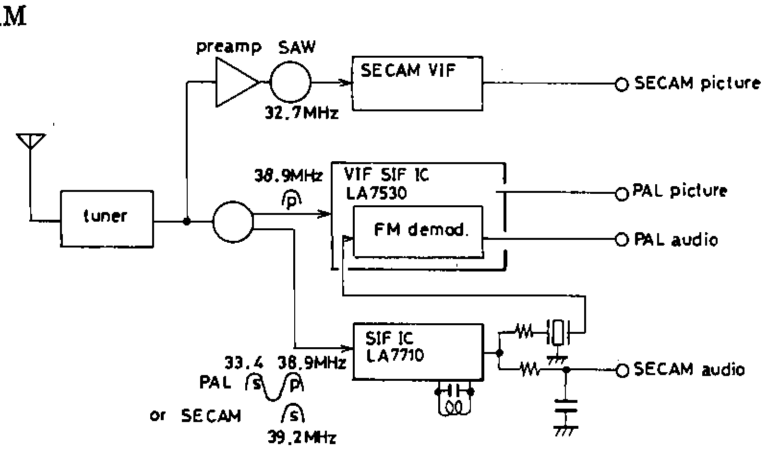
* Use a capacitor with less leak current.

[Coil specification]
Bobbin : 7mm square



Number of turns	④-⑥	7T
Material	UEW	0.12φ
Capacitance	33pF	
Frequency	39.2MHz	

(3) PAL/SECAM



(Note) *1 When selecting the PAL/SECAM, the LLD tuning point of the LA7710 must be changed over (38.9MHz → 39.2MHz).

*2 When selecting the PAL/SECAM, the filter characteristic must be changed over.